

**Faculty of Life Sciences**

**Programme Specification**

**Programme title: BSc (Hons) Forensic Science**

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| Academic Year:  | 2023/24  |
| Degree Awarding Body:   | University of Bradford   |
| Partner(s), delivery organisation or support provider (if appropriate): |  |
| Final and interim award(s):   | BSc (Honours) [Framework for Higher Education Qualifications (FHEQ) level 6]<br>BSc [Framework for Higher Education Qualifications (FHEQ) level 6]<br>Diploma of Higher Education [Framework for Higher Education Qualifications (FHEQ) level 5]<br>Certificate of Higher Education [Framework for Higher Education Qualifications (FHEQ) level 4] |
| Programme accredited by:  | The Chartered Society of Forensic Sciences<br>[component standards: IEPE (Interpretation, Evaluation and Presentation of Evidence); LA (Laboratory Analysis)]  |
| Programme duration:   | 3 or 4 Years Full Time   |
| UCAS code:  | 3 Year F410<br>4 Year F411   |
| QAA Subject benchmark statement(s):                                     | Forensic Science (2012)  |
| Date last confirmed and/or minor modification approved by Faculty Board | March 2023   |

**Please note:** This programme specification has been published in advance of the academic year to which it applies. Every effort has been made to ensure that the information is accurate at the time of publication, but changes may occur given the interval between publishing and commencement of teaching. Any change which impacts the terms and conditions of an applicant's offer will be communicated to them. Upon commencement of the programme, students will receive further detail about their course and any minor changes will be discussed and/or communicated at this point.

## Introduction

The programme focuses on the processing and analysis of physical evidence from crime scenes. It emphasises the application of science, and in particular analytical chemistry, and stresses the importance of quality assurance procedures in a forensic setting. A characteristic of Bradford's approach is in the integration of practical skills training within a good theoretical framework – whether in terms of crime scene investigation, the collection, examination and interpretation of physical evidence, laboratory processing or analysis. This programme of study provides students with a sound knowledge of how scientific techniques can be used within forensic investigations and allows students to explore a challenging area of applied science. The programme will develop students into a professional with the scientific skills to work within areas such as crime scene investigation, forensic science and related laboratory areas.

Throughout the programme, students will acquire skills that will be useful in whatever profession they choose to follow. These include project and time management, critical review and analytical thinking, presentation skills, computer, other applied IT skills and the management of data. These will be taught, practised and assessed. Students enrolled on the 4-year programme will be offered the opportunity to either undertake a placement or study abroad between the second and final years of study. The placement allows students to develop their professional and transferable skills whereas study abroad allows students to explore their discipline from a different cultural perspective.

Crime scene investigation and processing is taught through a series of simulated exercises based in our specially appointed Crime Scene Facility. Forensic Laboratory science is taught from our specialist Forensic Examination Laboratory and the analytical facilities in the Analytical Centre (including ESEM, FT-Raman, GC-MS). Teaching on Forensic Taphonomy is based around lectures and practical classes in our specialist Forensic Taphonomy Laboratory (including autopsy tables, fume extraction and insect colony) and the Oxenhope Taphonomy Field Station. Forensic Anthropology is taught in our state-of-the-art osteology laboratories, supported by an extensive collection of human skeletal remains.

## Programme Aims

The programme is intended to:

- provide educational opportunities for mature and alternatively qualified students, school-leavers, and traditionally qualified students;
- provide students with the opportunity to enhance their learning and professional awareness by applying their knowledge and understanding in work experience through a sandwich placement year (4-year programme), or to study abroad (3 or 4 year programmes);
- deliver a programme of study in forensic science that is designed to meet the rigorous benchmarking standards developed by the Chartered Society of Forensic Sciences;
- provide opportunities for students to develop a systematic knowledge and understanding of the core principles of chemistry, including a core range of chemistry-related practical and analytical skills, and enable the students to apply these to forensic science;
- enable the student to become an autonomous learner and prepare the student for the lifelong learning skills required to be adaptable over the course of the student's career;
- develop students' ability to think critically and creatively and collaborative and group working skills;
- develop wide subject knowledge and understanding and provide training in discipline skills to enable graduates to pursue further programmes of study or careers in forensic and laboratory sciences, crime scene investigation or related practice.

## Programme Learning Outcomes

To be eligible for the award of Certificate of Higher Education at FHEQ level 4, students will be able to:

- LO1 Demonstrate a knowledge of the underlying scientific principles in chemistry and forensic science.
- LO2 Apply basic core practical forensic skills.
- LO3 Recall a range of methods of forensic enquiry and recognise the importance of rigorous scientific process.
- LO4 Assess methods of scientific investigation in a forensic context.
- LO5 Manage time and learning effectively both independently and when working as part of a group.

Additionally, to be eligible for the award of Diploma of Higher Education at FHEQ level 5, students will be able to:

- LO6 Employ appropriate numerical and statistical techniques, scientific formulae and calculations.
- LO7 Assess and apply a range of forensic and chemical methods within different contexts.
- LO8 Apply forensic examination techniques to a variety of physical evidence.
- LO9 Undertake critical thinking and data evaluation within a range of chemical and forensic scenarios.
- LO10 Interpret data derived from laboratory observations and instrumental measurements in terms of their significance and the theory underlying them.
- LO11 Apply different methods for the identification and characterisation of materials of forensic interest.

Additionally, to be eligible for the award of Ordinary Degree of Bachelor at FHEQ level 6, students will be able to:

- LO12 Critically evaluate the importance and function of quality assurance and employ it within forensic contexts.
- LO13 Critically evaluate forensic recording protocols and defend a witness statement.
- LO14 Critically evaluate forensic evidence and its shortcomings in miscarriages of justice.
- LO15 Undertake critical thinking and data evaluation.

Additionally, to be eligible for the award of Honours Degree of Bachelor at FHEQ level 6, students will be able to:

- LO16 Plan and undertake a substantial piece of independent research.
- LO17 Present written and oral evidence in a professional manner.

## Curriculum

### Stage 1

| FHEQ Level | Module Title   | Type | Credits | Study Period | Module Code |
|------------|--|------|---------|--------------|-------------|
| 4          | Introduction to Crime and Criminal Justice                             | Core | 20      | 1            | SAC4007-B   |
| 4          | Biological Anthropology: From Human Evolution to Forensic Anthropology | Core | 20      | 1            | ARC4021-B   |
| 4          | Independent Study for Forensic Scientists                              | Core | 20      | 1&2          | ARC4014-B   |
| 4          | Principles of Forensic and Crime Scene Investigation                   | Core | 20      | 1&2          | ARC4016-B   |
| 4          | Field Recording Skills   | Core | 20      | 2            | ARC4022-B   |
| 4          | Scientific Frameworks  | Core | 20      | 2            | ARC4013-B   |

At the end of stage 1, students will be eligible to exit with the award of Certificate of Higher Education if they have successfully completed at least 120 credits and achieved the award learning outcomes.

### Stage 2

| FHEQ Level | Module Title   | Type | Credits | Study Period | Module Code       |
|------------|--|------|---------|--------------|-------------------|
| 5          | Forensic Chemistry                                     | Core | 20      | 1            | NEW:<br>ARC5036-B |
| 5          | Crime Scene Investigation                              | Core | 20      | 1            | ARC5031-B         |
| 5          | Forensic Examination and Analysis of Physical Evidence | Core | 20      | 1&2          | ARC5020-B         |
| 5          | Statistics and Databases for Forensic Scientists       | Core | 20      | 1&2          | ARC5022-B         |
| 5          | Forensic Biology                                       | Core | 20      | 2            | ARC5032-B         |
| 5          | Instrumental Analysis                                  | Core | 20      | 2            | ARC5034-B         |

At the end of stage 2, students will be eligible to exit with the award of Diploma of Higher Education if they have successfully completed at least 240 credits and achieved the award learning outcomes.

### Placement or Study Abroad (4-year programme)

This programme provides the option for students to undertake a work placement or period of study abroad between Stages 2 and 3. Students wishing to take this option will be registered for the 4-year programme.

Students registered on the 4-year programme who successfully progress to stage 3 at the stage 2 board of examiners will be eligible to take the placement year or study abroad. Students who progress to stage 3 but have a referral in one or more modules will not normally be able to go on placement or study abroad, particularly if that referral requires attendance. In such cases students on the 4 year course should discuss options with the Placement Tutor.

| FHEQ Level | Module Title            | Type   | Study Period | Module Code |
|------------|-------------------------|--------|--------------|-------------|
| 5          | Placement               | Option | FLYR         | ARC5013-Z   |
| 5          | Study Abroad Experience | Option | FLYR         | ARC5014-Z   |

On successful completion of ARC5013-Z, students will be eligible for the award of University Diploma in Professional Studies.

On successful completion of ARC5014-Z, students will be eligible for the award of University Diploma in Professional Studies (International).

For further information about study abroad opportunities please refer to <https://www.bradford.ac.uk/study/abroad/>

### Stage 3

| FHEQ Level | Module Title  | Type   | Credits | Study Period | Module Code |
|------------|---|--------|---------|--------------|-------------|
| 6          | Interpretation and Presentation of Forensic Evidence for Forensic Science | Core   | 20      | 1&2          | ARC6024-B   |
| 6          | Dissertation  | Core   | 40      | 1&2          | ARC6025-D   |
| 6          | Forensic Genetics   | Option | 20      | 1            | ARC6036-B   |
| 6          | Analysis of Controlled Substances   | Option | 20      | 1&2          | ARC6027-B   |
| 6          | Recent Advances in the Analysis of Human Remains                          | Option | 20      | 2            | ARC6034-B   |
| 6          | Forensic Taphonomy  | Option | 20      | 2            | ARC6013-B   |

Students will be eligible to exit with the award of Ordinary Degree of Bachelor if they have successfully completed 120 credits in both Level 4 and 5 and 60 credits at level 6 and achieved the award learning outcomes.

Students will be eligible for the award of Honours Degree of Bachelor if they have successfully completed at least 360 credits and achieved the award learning outcomes.

### Learning and Teaching Strategy

The School of Archaeological and Forensic Sciences has developed its programmes around the principles of inclusivity and diversity, offering student choice and direction in learning, and development of autonomous skills. Our programmes integrate assessment for learning, in which learning sessions, assessment activities, intended outcomes and employability relevance are closely correlated and supported by formative feedback, aimed at student development.

Teaching on programmes across the School of Archaeological and Forensic Sciences incorporates innovative practice and technologies. We undergo regular formal review both by the University of Bradford and our professional accrediting bodies to assure high standards in our teaching quality and maintain relevancy in our subject material and professional context. Our teaching occurs on a foundation of trust and expectation; we expect and trust that students participate and engage with all learning and teaching activities, whether they occur on campus or online, and students can expect and trust that staff will create engaging and productive learning and teaching environments.

The programme articulates with the Teaching and Learning strategies of the University. Students will be exposed to a variety of teaching methods designed to develop the learning outcomes and to cater for different preferences for learning. A wide variety of teaching methods appropriate to the learning outcomes of the individual modules is employed throughout the programme. These methods progressively focus on student-centred approaches to learning. Thus, students will be expected to take responsibility for their learning as they progress through the programme. In this way, students will develop the attributes needed for life-long learning and continuing professional development.

Learning outcomes 1-17, will be developed in a number of modules, through a mix of lectures, seminars, laboratory practical sessions, workshops, case studies and directed study. Directed study will include directed reading of selected textbooks, specified source literature and open learning materials, directed Web-based materials, report writing and other assignments. In addition, individual project/dissertation work will further help to develop learning outcomes 16 and 17.

Student choice is facilitated within the degree through optionality within module selection in the final year. Some assignments allow selection of topic and subject for coursework during certain modules, allowing diversity of focus in learning material, development of autonomous learning, and self-selection of degree focus.

## Assessment Strategy

The assessment strategy is designed to support the learning outcomes of the programme and to assess knowledge and understanding of core forensic principles and chemistry. A wide range of formative and summative assessment methods are used, including laboratory reports, portfolios, expert witness statements, case reports, witness reports, mock court exercise (oral cross examination), essays, worksheets, critiques, group-work and oral presentations, research designs, reflective journals and examinations (essays, short answers). The research design and dissertation develops students' ability to undertake independent research and plan this research effectively.

Formalised formative assessment opportunities are available on a selection of modules across all stages of the degree, to offer informative feedback on specific assignments. Additionally, within our school learning and teaching philosophy, formative feedback encompasses much more, including: discussions during lectures, seminars and tutorials; during practical and laboratory activities; verbal comments after presentations; and many other situations throughout the degree. A key skill that students will develop during the degree is the ability to identify feedback beyond that given as written comments on submitted assignments; in fact, the most beneficial feedback that students will receive is that given prior to assignments, allowing students to reflect and adapt, rather than just formal written feedback after assignments have been submitted and marked.

## Assessment Regulations

This Programme conforms to the standard University Assessment Regulations which are available at the link below.

<http://www.bradford.ac.uk/regulations/>

## Admission Requirements

We take into consideration a number of factors when assessing your application. It's not just about your grades; we take the time to understand your personal circumstances and make decisions based on your potential to thrive at university and beyond. Consideration of applications will be based on a combination of formal academic qualifications and other relevant experience.

The **minimum** entry requirements for the programme are as follows:

A typical offer to someone seeking entry through the UCAS scheme would be 112 UCAS points at A-level to include at least one science A level at grade B. For BTEC – Forensic and Criminal Investigation: DMM. For BTEC – Applied Science: DMM. For the Access course: 112 UCAS ;points – science subject required. For the International Baccalaureate: 112 UCAS points to include HL in a science subject at grade 6 and two other HL subjects at grade 5; plus HL 3 or SL 4 in Maths and English Language and Literature A or English B. . We also require GCSE English, Mathematics and Science at grade C (level 4) or above.

In addition, students whose first language is not English must have a Minimum IELTS of level 6.0, with no sub-test less than 5.0, or the equivalent.

Details of other acceptable qualifications are given here:

<https://www.bradford.ac.uk/courses/ug/forensic-science-bsc/?att=ft>

Please note: This link provides admission information relevant to the current recruitment cycle and therefore may be different to when this document was originally published.

Applications are welcome from students with non-standard qualifications or mature students (those over 21 years of age on entry) with significant relevant experience.

On completion of a UCAS form students will be invited to the School for an Open Day when the student will have the opportunity to meet staff, view the facilities and discuss “the Bradford experience” with current students.

## Recognition of Prior Learning

If applicants have prior certificated learning or professional experience which may be equivalent to parts of this programme, the University has procedures to evaluate and recognise this learning in order to provide applicants with exemptions from specified modules or parts of the programme.

## Minor Modification Schedule

| <b>Version Number</b> | <b>Brief description of Modification</b>   | <b>Date of Approval (Faculty Board)</b> |
|-----------------------|--|---|
| 1                     | Annual changes for 2021 academic year  | June 2021                               |
| 2                     | Annual changes for 2022 academic year  | March 2022                              |
| 3                     | Modules removed from curriculum:<br>ARC4023-D, ARC5023-D, ARC6017-B,<br>ARC6035-B, CFS4022-B, CFS4023-B.<br><br>Modules added to curriculum: ARC4013-B,<br>ARC4021-B, ARC4022-B, ARC5032-B,<br>ARC5036-B, ARC6036-B SAC4007-B, | March 2023                              |